CLAIMS

What is claimed is:

1. A composition comprising:

a first dye that blocks electromagnetic waves in at least one of the following regions: visible and infrared; and

a substrate material, the substrate material and the first dye being chosen and proportioned so that the composition ablates upon impact of electric energy.

2. The composition according to claim 1, wherein the composition also blocks electromagnetic waves.

3. The composition according to claim 2, wherein the electromagnetic waves blocked range from about 200 nm to about 500 nm.

4. The composition according to claim 2, wherein the electromagnetic waves blocked range from about 800 nm to about 1800 nm.

5. The composition according to claim 1, wherein the first dye blocks a portion of the visible electromagnetic wave spectrum.

6. The composition according to claim 1, and further comprising a second dye, wherein the second dye blocks a portion of the infrared electromagnetic wave spectrum, and the first dye blocks a portion of the visible electromagnetic wave spectrum.

7. The composition according to claim 1, wherein the first dye blocks a portion of the infrared electromagnetic wave spectrum.

8. The composition according to claim 1, and further comprising a second dye, wherein the second dye blocks a portion of the visible electromagnetic wave spectrum, and the first dye blocks a portion of the infrared electromagnetic wave spectrum.

9. The composition according to claim 1, wherein the substrate material is selected from the group consisting of cellulosics, vinyls, polycarbonates and acrylics.

10. The composition according to claim 1, and further comprising a plasticizer.

11. The composition according to claim 1, and further comprising a petroleum derivative.

12. The composition according to claim 1, and further comprising a lubricant.

13. The composition according to claim 1, wherein the composition is formed into a product.

14. A composition resistant to an electric-arc comprising:

an IR/optical dye; and

a substrate material, the IR/optical dye and substrate material being chosen and proportioned so that the composition blocks electromagnetic waves and ablates when struck by electric arcs.

15. The composition according to claim 14, wherein the IR/optical dye is selected from at least one of the group consisting of optical dyes and infrared dyes.

16. The composition according to claim 14, wherein the IR/optical dye is substantially orange.

17. The composition according to claim 14, wherein the substrate material is a cellulose acetate-propionate.

18. The composition according to claim 14, and further comprising a plasticizer.

19. The composition according to claim 14, and further comprising a dispersant.

20. The composition according to claim 19, wherein the dispersant is a petroleum derivative.

21. The composition according to claim 14, and further comprising a lubricant.

22. The composition according to claim 21, wherein the lubricant is a zinc stearate.

23. The composition according to claim 14, wherein the composition is formed into a product.

24. The composition according to claim 23, wherein the product is selected from the group consisting of at least face shields, multi-layered face shields, barriers, multi-layered barriers, screens, multi-layered screens, windows, multi-layered windows, eyewear and multi-layered eyewear.

25. A process for producing an electric-arc resistant composition comprising:

blending an IR/optical dye with a substrate material; and

subjecting the blend to curing conditions.

26. A product formed by the process of claim 25.